

Business Day, Johannesburg, 7 July 2006

Thinking out of the matchbox

Glen Mills

SA, ARGUABLY, is not known for its design culture. It is certainly not a fountainhead of good design. Take minimum-cost housing. It's a disaster. This is a sector that is alive with design potential. Yet, from a design point of view, our housing fails on several counts. Here are a few to think about. First, urban form. Housing, from a technical point of view, provides one of the most important instruments for shaping urban form, for creating an urban culture and for enabling urbanisation. For that reason, housing design cannot be determined in isolation. It can't be produced without regard for the other building types and spatial requirements that make for viable, vibrant and quality urban living environments.

In SA, housing continues to be designed and built in seclusion, usually in townships at the edges of the city, away from economic and cultural opportunities.

Second, integration. Housing needs to form part of mixed-use developments if it is to enable the building of integrated communities. Different building densities, a variety of humanly scaled public spaces and integrated transportation and movement configurations characterise those communities' environments.

This is not the case in SA, where rigidly zoned housing developments, especially for the urban poor, sterilise spontaneous activities that build amalgamated communities.

Third, sustainability. Housing must be rooted in the fundamental principles of architectural and urban design. These principles have to do with city forms that are socially, economically and environmentally sustainable. For that to happen they need at least to be compact and pedestrian-friendly. Township sprawl is expansive and expensive.

Fourth, technology. Housing is, in effect, an intersection of different technologies, where technology may be regarded as a fusion of knowledge, skills and tools. Most technologies that affect the conditions of life and economic prospects of societies are systemic, in that they traverse disciplinary lines and consequently demonstrate strong complementarities among diverse design thrusts.

In SA we disrupt both the intersection and the complementarity of technologies by treating each in isolation. For example, a technology focused on, say, finance is treated separately from other technologies that affect design. This artificial separation is perhaps a significant reason why housing in SA is designed from a one-sided, as opposed to a holistic, point of view.

Reconstruction and development programme (RDP) houses might be viable, or so we are told, from a capital-expenditure point of view, but they fail badly on just about all other design counts. That's no solution to the problem; it is a prominent feature of the problem itself.

Fifth, user involvement. Housing produced on a large scale must optimise end-user involvement. People need to be part of the design, construction, maintenance and management of their houses and neighbourhood spaces. This enables people to exercise choice, not just about design but about things like tenure as well.

Yet, in SA, user involvement is stymied because the bureaucratic machinery of commercial and political forces commandeers the housing delivery process. The outcomes are products valued mainly as marketable and political articles of trade, at the expense of other social and cultural values.

So, our housing designs are broke: they don't work! Like the people it tries to accommodate, the country's stockpile of 21st century housing, designed for, not with, the poor, is itself impoverished. There's no evidence of design creativity in what is inherently a design-prone enterprise, one that lends itself to imagination and innovation.

We've therefore got to ask this question: is this the best that the battalions of politicians, consultants, bureaucrats, financiers, developers and contractors can do? After all, these are the "experts" who keep watch over what is produced. If this is their best, then we have a colossal economic and environmental burden that we, as well as future generations, are going to pay for.

Compared with our political past, it seems very little has changed in the way we imagine and innovate minimum-cost housing. We're still reproducing yesterday's dysfunctional township design. Visit any post-1994 city-rim housing estate, compare

it with any apartheid-era township and you'll see and sense the grim evidence of this: the pollution, the bleakness, the crime, the isolation, the separation, the lined-up rows of little boxes, the lack of design choice, the wasted opportunity.

But maybe something has changed. You see, from a purely quantitative point of view, we've certainly been busy chipping away at production targets. Big ones. And we are rolling it out at quite a rate, in row upon row of little boxes, sometimes in different colours. In fact we've planted more than 1,5-million of the things since 1994. Not only are we good at moving lots of people into lots of little houses, we also give those people lots of colours to choose from.

Now that's different to what the previous bunch did, isn't it? Sure, but there's a catch. The shortage, or backlog, of subsidised boxes seems continuously to outpace the scorecard. No matter how fast we crank the stuff out, the demand, according to our backlog calculations of course, keeps on outstripping supply. This means we sit with two problems. First, from a quantitative perspective, no matter how hard we try, we still can't crack the backlog. Second, from a qualitative perspective, we need urgently to dump our culture of bad design and invent a new tradition of design excellence. In other words, how can we produce both quantity and quality at the same time?

Maybe the clue to both solutions is in front of our face: the end users, or dwellers, themselves. Consider what John FC Turner, the internationally renowned housing specialist, said about user participation more than 30 years ago: "When dwellers control the major decisions and are free to make their own contributions in the design, construction, or management of their housing, both this process and the environment produced stimulate individual and social wellbeing. When people have no control over, nor responsibility for, key decisions in the housing process, on the other hand, dwelling environments may instead become a barrier to personal fulfilment and a burden on the economy."

Turner's observation confirms a solid planning principle about the intrinsic worth of dweller autonomy. Following Turner, "autonomy means interdependent self-management, not independent self-sufficiency".

Dweller autonomy is thus the opposite of SA's top-down approach that, because it imposes badly designed one-size-fits-all houses and townships on dwellers, it arrests "personal fulfilment and is a burden on the economy".

However, dweller autonomy can only happen if political and commercial role players install the right support systems and enabling procedures. This is necessary

for people to become “interdependent self-managers” and to realise their full creative potential.

The will and ability of dwellers to participate in the creation of housing is already there. Take a look at any informal settlement and you’ll see houses designed and assembled by their occupants all day, every day.

Whether this will and ability are matched by the will and ability of political and commercial interests is the burning question. The answer will, from a design point of view, determine whether it is business as usual or the beginning of radical change.

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From: <http://www.businessday.co.za/articles/opinion.aspx?ID=BD4A228541>

Below is a subsequent article by Dr Glen Mills, also from the Business Day, published nearly six years later, expanding his ideas in relation to informal settlements.

Informal settlements could be our cities of the future

Glen Mills, Business Day, Johannesburg, 30 January 2012

SHANTYTOWN is the new normal in our cities. SA is one of the world's biggest manufacturers of shantytowns, commonly known as informal settlements. According to official reports, there are about 2700 informal settlements in SA.

SA's population is increasing, our cities are expanding and densifying and, within them, informal settlements are booming as urban newcomers look for jobs and a better life. The informal settlement is a growth sector. But it's more than that. It's a building type that is popular because it suits the needs of the urban poor. It offers choice, it gives people what they want, it enables individual creativity and it is affordable. It is also simple to build and easy to use.

So, a powerful brand — the informal settlement — is in town. And it's reshaping the city. It has mass-market appeal at the bottom of the wealth pyramid because it delivers on the promise of cheap, tailor-made shelter. That's a remarkable achievement in a time of mass-produced, one-size-fits-all housing for low-income citizens and it is why we need to appreciate its complexity and value.

More particularly, we need to get to grips with the architecture of this brand. City managers, politicians and built-environment professionals have to uncover the value it adds to the low-income housing market and figure out ways of leveraging that value for new kinds of urban innovation. How can we absorb this growing brand of city-making so all citizens can enjoy its benefits?

Urbanisation in SA is on the increase, with more than half the population already living in cities. There is a need to recognise and appreciate the economic, social and environmental benefits that informal settlements can bring to the urbanisation process.

But more importantly, we need to understand this building type from a design point of view. It is crucial to the wellbeing of all city dwellers that we expose this design

knowledge so a new form of design leadership can emerge and transform the institutionalised practices for creating better cities. Cities are complex artefacts, and how we grow and transform them depends on how well we understand them. Informal settlements, because they are self-reproducing and built by way of grassroots processes, introduce another dimension to that complexity. This adds further impetus to the need for a proper appreciation of how they work functionally and formally.

This is where the history of the city needs to come in because it shows how functional processes and formal products interweave to create urban artefacts of utility. Take a look at the evolution of city design worldwide and you'll see that it's largely the result of a bottom-up process. Lots of design decisions, creating bits and pieces of the city here and there, add up to a built environment that has a strong sense of spatial and social organisation. This results in an organic-looking town plan that on first inspection appears to be chaotic but in reality is highly ordered.

While there was no centralised concept to guide the development process from the top down, there was a network of design-build efforts based on simple rules that took into account regional circumstances, such as site conditions, local knowledge, topography, the availability of tools and materials, technical skills and climate.

Here's how urban historian Lewis Mumford describes this process in his 1961 book, *The City in History*: "Organic planning does not begin with a preconceived goal: it moves from need to need, from opportunity to opportunity, in a series of adaptations that themselves become increasingly coherent and purposeful, so that they generate a complex, final design, hardly less unified than a preformed geometric pattern." The results are cities that display an ingenious characteristic: each is articulate as a whole but, at the micro level, each of its architectural parts and open spaces is different. There is a continuity of architectural and spatial differences that gives each town its own identity.

Mumford again: "Each medieval town grew out of a unique situation ... and produced ... a unique solution. The consensus is so complete as to the purposes of town life that the variations in detail only confirm the pattern." The same can arguably be said about the socio-spatial patterns that define contemporary informal settlements. So here's the thing: what were once mediaeval informal settlements are vibrant, matchless cities today. They have emerged, over time, as models for best practices in urban design.

Now do this quick thought experiment to appreciate the latent potential in SA's informal settlements for following the same route to urban success. Think of modern-day cities such as Oxford, Jeddah, Siena, Copenhagen, Istanbul or Zurich,

and you'll see places with organic-looking deformed grids, bustling economies and vibrant street cultures. Now consider their well-documented histories, starting with their mediaeval origins, impoverished populations, polluted public spaces and squalid buildings. Then imagine a process of continuous upgrading, with evolving technologies and knowledge gradually transforming them into what they are today. You should now get the visual of what can be done to renovate, fairly quickly, today's informal settlements into attractive, functional cities of tomorrow.

Today's informal settlements have the potential for a similar historical trajectory, which can be accelerated because of the knowledge, technologies and data at our disposal. Yes, we can transform and grow our cities in exciting new ways if we harness the innovation and energy of SA's squatters and the informal settlements they create. We can transform most of SA's informal settlements into safe, appealing places.

Architects, planners, engineers, city managers, squatters, politicians, among others, must focus on the positive and formulate a compelling vision of what these settlements can become. We need to see through the squalor and recognise the value, resourcefulness and novelty that lie behind it. Working in partnership with all stakeholders, various kinds of job-creating upgrading processes should then be explored and installed.

If we regard these settlements as pointers to new forms of urban design then, by working with and on behalf of their inhabitants, we can transform and develop these places from the bottom up into decent living environments. The main thing about informal settlements is that they demonstrate ways of city-making that are affordable and sociable. They are constantly emerging through a dynamic, flexible process, moving from "need to need, opportunity to opportunity, in a series of adaptations".

The imperative for SA to upgrade and transform its informal settlements is without precedent and new institutional templates for their renovation must be found. This will require us to build on our informal settlement brand by harvesting the best ideas from the network of squatter citizens who have already demonstrated ingenuity in the practices and places they have created. Their social agency is extraordinary given its achievements and the harsh circumstances of poverty these people face.

We should be inspired by SA's informal settlement brand. After all, it is the new normal and an obvious starting point for a unique generation of world-class cities.

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From: <http://www.businessday.co.za/articles/Content.aspx?id=163606>

Course: Development, Rural and Urban

13034, Mills, Thinking out of the matchbox, Business Day, 2006

2415 words